

Appendix
Healthier Food and Beverage Interventions in Schools: Four Community Guide Systematic Reviews
Wethington et al.

Appendix Table 1. Studies and Study Arms Stratified by Intervention Type

	Meal or fruit and vegetable interventions (n=25)	Snack foods and beverages interventions (n=13)	Multicomponent healthier meal and snack interventions (n=12)	Water access interventions (n=2)
Study design	Author, year	Author, year	Author, year	Author, year
Group RCT	Bere, 2005; Bere, 2006 (Free fruit arm); Bere, 2006 (Paid fruit arm); Damsgaard, 2014; Perry, 2004; Radcliffe, 2005; te Velde, 2008		Anderson, 2005; Coleman, 2012; Rappaport, 2005	Muckelbauer, 2012
Prospective cohort		Blum, 2008		
Other design with concurrent comparison		Alaimo, 2013; Taber, 2012c		
Group non- randomized trial	Tak, 2007; Jamelske, 2012			
Repeat cross- sectional with comparison	Moore, 2008	Schwartz, 2009	Spence, 2014	Schwartz, 2016
Time series	Qian, 2015			
Repeat cross- sectional	Amin, 2015; Cullen, 2015; Lin, 2016	Cradock, 2011; Palakshappa, 2016; Taber, 2012b	Fung, 2013; Cullen, 2008/ Mendoza, 2010; Mullally, 2010; Sanchez-Vaznaugh, 2010	
Cross-sectional with comparison	Affenito, 2013; Chang, 2014; Cohen, 2012; Davis, 2009; Olsho, 2015; Taber, 2013a; Taber, 2013b	Hennessy, 2014; Jones, 2009; Taber, 2012a; Taber 2015; Terry-McElrath, 2015; Wordell, 2012	Mâsse, 2014	
Single group before–after	Campos Pastor, 2012; Cohen 2014; Gates, 2013; Kastorini, 2016; Triador, 2015/Hanbazaza, 2015		Frerichs, 2015; Spence, 2013	

Appendix
Healthier Food and Beverage Interventions in Schools: Four Community Guide Systematic Reviews
Wethington et al.

Appendix Table 2. Additional Dietary Outcomes by Intervention Category

Variable	Meal or fruit and vegetable interventions	Snack food and beverage interventions	Multicomponent healthier meal and snack interventions	Water access interventions
Other sugar-sweetened beverage measure				
Number of study arms	NR	4	1	1
	–	<p>Decrease: 0.25, $p < 0.05$ (scale 1 to 4)</p> <p>Adjusted prevalence of daily SSB</p> <p>Banned soda: increase: 2.3 (95% CI= –1.4, 6.0)</p> <p>Banned all SSB: increase: 5.8 (95% CI= 0.6, 11.1)</p> <p>Consumed ≥ 1 SSB/d compared to no consumption: adjusted OR=3.3, $p < 0.01$</p> <p>Soda consumption: decrease soda consumption among African American population, but not total population</p>	1 serv SSB yesterday: OR ^b 1.08, NS	No intervention effect on soda consumption
Low-nutrient food intake				
Number of study arms	4	2	1	NR

Appendix
Healthier Food and Beverage Interventions in Schools: Four Community Guide Systematic Reviews
Wethington et al.

	Sweets and crisps Sweets decrease: 0.14 portions/d (95% CI= −0.53, 0.26 portions/day) Crisps decrease: 0.04 portions/d (95% CI= −0.25, 0.18 portions/day)	Sweet and salty snacks (1 to 4 scale) Sweet decrease: 0.10, NS Salty decrease: 0.20, NS	OR ^c : 2.1 (95% CI=1.6, 2.8)	—
	Soda/candy/chips Decrease: 0.40 and 0.58 times/wk	Candy In school candy consumption: OR ^a 0.97 (SE=0.20); <i>p</i> =0.88 Out of school candy consumption: OR ^a 0.99 (SE=0.16), <i>p</i> =0.96		
	Intake of energy-dense, micronutrient-poor food or drink at breakfast Decrease: 10.7 pct pts, <i>p</i> =0.002	Pastries In school pastry consumption: OR ^a 0.44 (SE=0.12), <i>p</i> =0.00 Out of school pastry consumption: OR ^a 1.4 (SE=0.25), <i>p</i> =0.06		
		Chips In school chip consumption: OR ^a 0.87 (SE=0.15), <i>p</i> =0.41 Out of school chip consumption: OR ^a 1.17 (SE=0.17), <i>p</i> =0.29		
Other fruit and vegetable (FV) intake				
Number of study arms	3	1	1	NR
	FV at morning snack	Fruit	Increase: 0.18 times/d, NS	—

Appendix
Healthier Food and Beverage Interventions in Schools: Four Community Guide Systematic Reviews
Wethington et al.

Arm 1 Increase: 0.81 FV at snack, NR	In school fruit consumption: OR ^a 1.01 (SE=0.12); <i>p</i> =0.95
Arm 2 Increase: 0.56 FV at snack, NR	Out of school fruit consumption: OR ^a 1.21 (SE=0.13); <i>p</i> =0.09
Decrease: 0.06 cups at lunch; <i>p</i> =0.01	Vegetable
Increase: 0.18 cups at lunch	In school vegetable consumption: OR ^a 1.08 (SE=0.14), <i>p</i> =0.56
	Out of school vegetable consumption: OR ^a 0.94 (SE=0.10), <i>p</i> =0.58

Intake of milk and alternatives to dairy products

Number of study arms	6	1	3	NR
	Decrease: 0.05 serv/d, <i>p</i> =0.07; Increase: 0.21 serv/d, <i>p</i> <0.001	In school milk consumption: OR 0.97 ^a (SE=0.10), <i>p</i> =0.77	Increase: 4.1 oz of milk at lunch, <i>p</i> <0.05	–
	Increase: 8.7 pct pts at breakfast, NS	Out of school milk consumption: OR ^a 1.24 (SE=0.13), <i>p</i> =0.04	Increase: 0.18 serv/d (95% CI=0.80, 0.28)	
	Increase: 3.7% milk at lunch (<i>p</i> =0.38)		Increase: 0.24 serv/d (95% CI=0.18, 0.31)	

Appendix
Healthier Food and Beverage Interventions in Schools: Four Community Guide Systematic Reviews
Wethington et al.

	Decrease: 0.46 oz of milk at lunch, NS			
	Decrease: 10.1% milk at lunch ($p<0.0001$)			
	Increase 0.21 times eating milk/yogurt per day			
Fruit juice intake				
Number of study arms	3	4	NR	1
	Decrease: 0.01 servings at lunch, NS	In School juice consumption: OR ^a 0.73 (SE=0.10), $p=0.02$ Out of School juice consumption: OR ^a 0.82 (SE=0.82), $p=0.10$	No studies	Decrease: 0.1 glasses/d, NS
	Increase: 0.31pct pts at breakfast, NS			
	Increase: 0.03 cups at lunch, NS	Girls decrease: 0.21 serv/d, $p<0.05$; Boys increase: 0.05 serv/d, NS		
		100% Fruit Juice and Water (1 to 4 scale) School increase: 0.33, NS Home decrease: 0.18, $p<0.05$		

Appendix
Healthier Food and Beverage Interventions in Schools: Four Community Guide Systematic Reviews
Wethington et al.

		100% fruit juice: Increase: 0.4 serv/wk (NS)		
Diet quality indices				
Number of study arms	1	NR	2	NR
	KIDMED (range −4 to 11) Increase: 0.05, NS	–	Total Diet Quality Index Increase: 0.03, NS Students 80% more likely to report better diet quality after intervention: Increase: PR 1.8 (95% CI=1.3, 2.3)	–

^aOdds of food item consumption for students exposed to policy compared to students not exposed to policy.

^bOdds of consuming 1 serving of sugar-sweetened beverages when exposed to average guidelines compared to below average guidelines or when exposed to above average guidelines compared to average guidelines.

^cOdds of meeting recommended intake of low-nutrient dense food after policy implementation compared to before policy implementation.

Kcals, kilocalories; d, day; wk, week; serv, servings; oz, ounces; NR, not reported; NS, not significant; IQI, interquartile interval; PR, prevalence ratio.

Appendix
Healthier Food and Beverage Interventions in Schools: Four Community Guide Systematic Reviews
Wethington et al.

Appendix Figure 1. Study limitations by intervention.

